SWRCB Workshop 2:
Bay-Delta Fishery Resources

NOAA Fisheries

October 1, 2012

Key points

1. **NMFS 2009 Biological Opinion (BiOp)**
   a) Jeopardy vs. Recovery
   b) Many areas, diversions and actions upstream are not covered
2. **The SWRCB should model a range of outflow objectives**
   c) Ensure they do not create unintended consequences upstream
3. **Increased flows will benefit native fishes, including salmonid survival through the Delta**
   d) Precautionary approach would support flows closer to the 2010 SWRCB flow criteria report.
4. **New or soon-to-be completed information is relevant**
   e) Adaptive management will be needed.
5. **Concerned about the continued decline and low numbers for winter-run Chinook**

NMFS 2009 BiOp and RPA Actions

Scope

a) CVP/SWP controlled streams on the Sacramento and San Joaquin Rivers and their tributaries

b) Does not include actions that could also be taken by the many other non-federal entities in those watersheds.

Significant areas not part of the scope of consultation:

a) **San Joaquin Tributaries Operations**

i. Merced and Tuolumne river flows influence flows at Vernalis, but are not part of the Federal action addressed in the BiOp.

b) **Sacramento River Tributaries**

ii. The only independent populations of spring-run Chinook salmon, are in Butte, Mill, and Deer creeks, all of which are also not within the scope of the consultation.

iii. Numerous upstream diversions are unscreened or operated by entities outside the scope of the CVP/SWP consultation

Post NMFS 2009 BiOp Information

New information since 2009/2010:

a) **Annual Reviews, 2011 RPA amendments, Joint Stipulation**

i. Examples of adaptive management

ii. Not aimed at recovery or addressing "uncovered" issues

b) **NAS study (2010) - evaluated BiOps and RPAs**

iii. **Overall RPA**- *"The assortment of actions among the three habitat realms (watersheds, mainstem rivers, and delta) is designed to improve survival and to enhance connectivity throughout this system. This approach is consistent with the contemporary scientific consensus on improving ecosystem functioning…"* \

iv. **OMR**- *"The committee concludes that the strategy of limiting net tidal flows toward the pump facilities is sound, but …this action alone will [not] benefit the San Joaquin salmon, unless it is combined with an increase in San Joaquin River flows."*

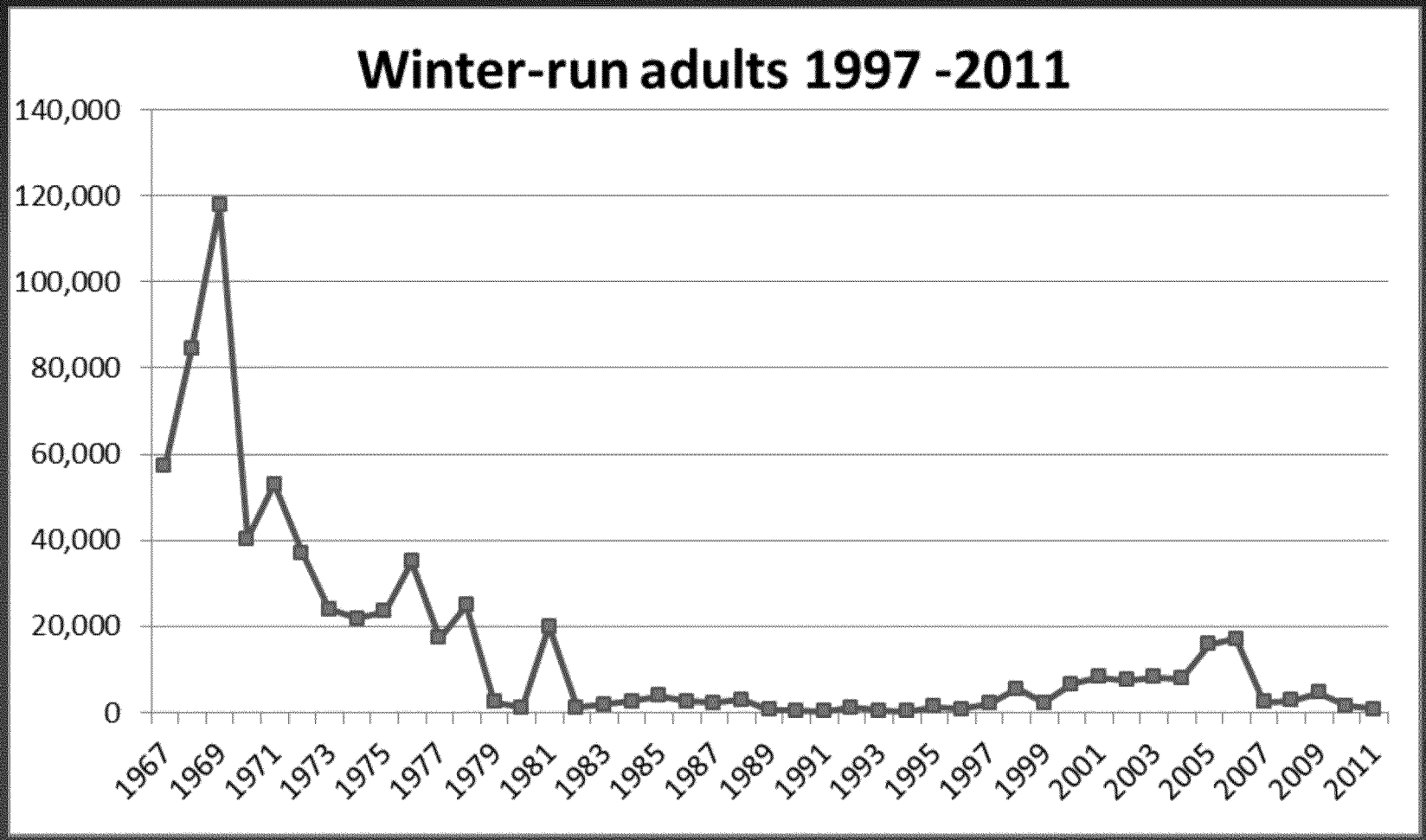
Dams and Cold Water Pool Management

- While restoring a natural hydrograph would benefit some species, it could adversely affect salmon and steelhead if not approached with care.
- Salmon and steelhead are precluded from accessing their historic spawning habitats by rim dams, and currently rely on carefully controlled reservoir releases for their survival.
- The SWRCB's process for establishing new outflow objectives should be accompanied by full CalSim modeling and evaluation.
  - Including potentially modifying SWRCB or DFG 2010 springtime outflow criteria to protect reservoir releases

Adaptive Management

- **The SWRCB is likely to face two kinds of uncertainty in the process of establishing Delta flow criteria:**
  (1) what flows each species requires for each life stage under different hydrological conditions, and
  (2) how current conditions will change over time and lead to changes in flow needs.
- **The SWRCB should use the precautionary approach and establish flow criteria that provide a margin of safety for fish populations dependent on the Delta**
- **Monitoring and adaptive management processes can be used to refine flows and incorporate new information.**

Winter-run Decline



Forthcoming Information

1. **NMFS Final Recovery Plan (Winter 2012/2013)**
2. **Winter-Run Life Cycle Model (first stages: Dec. 2013)**
3. **Scientific paper on migration patterns of juvenile winter-run Chinook salmon through the Delta**
   a) **Co-authored by NMFS, FWS, DFG, DWR (in Press)**
4. **Report - Potential causes of 2011 winter-run decline**
5. **Technical memorandum for BDCP - Delta Salmonid Survival Objectives (early 2013)**
   b) **Co-authored by NMFS, FWS, DFG, DWR (in Press)**

Suggestions for the SWRCB

1. **Upstream reservoir releases/ cold water pool management**
   a) Model a range of outflow objectives
   b) Modify 2010 SWRCB or DFG spring outflow criteria
2. **Consider and/or model alternative methods to protect beneficial uses of salmonids**
   c) Less unscreened diversions
   d) Decreased water use in rice decomposition
3. **Consider increased outflow in the San Joaquin to increase through Delta survival of salmonids**
   e) In addition to objective modifications suggested by FWS.
4. **Use the precautionary approach in face of uncertainty**
   f) Rely on adaptive management to address new information
5. **Support modifications to the DCC Gates objectives, in line with the comments of DFG.**

In conclusion

- **Adequate flows are an essential component of habitat for all life stages of listed and non-listed anadromous fish**
  a) **Both upstream in rivers and in the Delta.**

- **There continues to be strong support, even with new information, for the goals and biological objectives identified in the SWRCB 2010 flow criteria report.**